

# **SYSTEMS AND METHODS OF SPATIAL IMAGE ENHANCEMENT OF A SOUND SOURCE**

## **Abstract of the Disclosure**

Reproduction of stereophonic audio information over a single speaker requires summing multiple stereo channels. When signals having approximately equal magnitudes and approximately opposite phases at a frequency are added together, the audio information at the frequency is lost.

To preserve areas of potential cancellation and potential audio information loss, the audio enhancement system adjusts the phase relationship between the stereophonic channels. To avoid the loss of the spatial content of the stereo signal, the audio enhancement system determines the difference information that exists between different stereophonic channels. The audio enhancement system enhances the difference information and mixes the enhanced difference information with the phase adjusted signals to generate an enhanced monophonic output.

PATENT

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